

## **REMARKS**

Claims 10-26 and 34 are pending in the application. The Examiner objected to Claims 10, 12 and 20. The Examiner rejected Claims 10-17 and 34 under 35 U.S.C. §112, second paragraph. The Examiner rejected Claims 10, 12-14, 18-22 and 34 under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Hinedi et al. (U.S. Patent 6,202,189).

Please cancel Claims 12 and 20 with out prejudice. Please amend Claims 10, 13 and 16-19 as set forth herein. No new matter has been added.

Initially, since the Examiner has not raised any art rejections with respect to Claims 11, 13-15 and 23-26, it is presumed that these claims contain allowable subject matter. A confirmation from the Examiner of this allowance is respectfully requested.

Regarding the objection to Claim 10, the Examiner states that “at least one parity symbol streams” should read “at least one parity symbol stream”. Claim 10 has been amended accordingly. Based on at least the foregoing, withdrawal of the objection of Claim 10 is respectfully requested.

Regarding the objection to Claims 12 and 20, the Examiner states that Claim 12 is merely a reiteration of elements of Claim 10, and that Claim 20 is merely a reiteration of elements of Claim 18. Claims 12 and 20 have been cancelled.

Regarding the rejection of Claims 10-17 and 34 under §112, second paragraph, the Examiner raised several antecedent basis issues, particularly in Claims 10, 13, 16, 17, 18 and 19. These rejections have been addressed herein. Based on at least the foregoing, withdrawal of the rejection of Claims 10-17 and 34 under §112 is respectfully requested.

Regarding the rejection of independent Claims 10 and 18 under §102(e) or §103(a), the

Examiner states that Hinedi et al. anticipates or renders obvious all of the elements of the claims. Hinedi et al. discloses a punctured serial concatenated convolutional coding system and method for low-earth-orbit satellite data communication. Initially, Hinedi et al., which teaches a decoder for decoding serially concatenated convolutional coded data and parity bits, cannot and does not teach or disclose a quasi-complementary turbo code (QCTC) and cannot anticipate or render obvious an apparatus or method for receiving and processing a QCTC.

The Examiner equates the sequence combining to the process that occurs in the combiner (47) of Hinedi et al., and states that “sequence” combining is inherent in Hinedi et al. Since “sequence combining” is not merely combining according to a sequence, this element is not inherent.

The Examiner equates the channel de-interleaver with the de-interleaver (50) and decombiner (51) of Hinedi et al. The de-interleaver of Hinedi et al. receives bit probabilities from a soft-input soft-output (SISO) module. The channel de-interleaver of Claim 10 and the method of Claim 18 perform at least three (3) distinct functions, namely, (1) separating the combined symbols into an information symbol stream and parity symbol streams, (2) demultiplexing the parity symbol streams into at least one parity symbol stream according to a given code rate, and (3) independently de-interleaving and outputting the information symbol stream and the demultiplexed parity symbol streams. The bit probabilities of Hinedi et al. cannot be equated with the combined symbols of Claims 10 and 18 of the present application.

Although Hinedi et al. discloses a serial concatenated convolutional decoding system (43), this system (43) cannot be equated with the turbo code decoder for multiplexing the independently de-interleaved parity symbol streams and the information symbol stream, decoding the multiplexed streams according to a predetermined decode rate, and outputting the information symbol stream, of Claims 10 and 18 of the present application.

The Examiner asserts that the claims of the present application are anticipated by Fig.5 of Hinedi et al.

Although the present invention relates to an apparatus for receiving and decoding a QCTC, comprising a combiner, channel de-interleaver and turbo code decoder, the Examiner fails to reject the configuration embodied in the claims of the present application.

In other words, the Examiner alleged that the combiner, channel de-interleaver and turbo code decoder respectively correspond to the elements 47, 50/51, and 43 of Hinedi et al. However, element 43 is a SCCC decoder and elements 47 and 50/51 are included in the SCCC decoder 43.

The combiner of the claims of the present application performs sequence combining of the received symbols including information symbols and parity symbols. However, the combiner 47 of Hinedi et al. performs combining data symbols and parity symbols, which are already separated.

The de-interleaver of the claims of the present application performs demultiplexing of parity symbol streams into at least one parity symbol stream and independently de-interleaving a information symbol stream and multiplexed parity symbol streams, whereas Hinedi et al. fails to disclose these features.

Finally, Hinedi et al. fails to disclose a configuration corresponding to the turbo code decoder of the present application.

Based on at least the foregoing, withdrawal of the rejection of Claims 10 and 18 under §102(e) or §103(a) is respectfully requested.

Independent Claims 10 and 18 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 11, 13-17, 19, 21-26 and 34, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 11, 13-17, 19, 21-26 and 34 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 10, 11, 13-19, 21-26 and 34, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Musella", with a stylized flourish at the end.

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